

Appl. No. 10/811,737  
Amdt. dated Feb 16, 2006  
Reply to Office Action of Feb 3, 2006

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of claims:**

Claim 1 (currently amended): An artificial turf system which includes a support layer, a base layer, and an outer layer, comprising:

an area of selected size and composition comprising said support layer;  
at least one grid consisting of a plurality of interconnected cells arranged over said support layer comprising said base layer;  
each cell of said cells comprises an upstanding tubular member having an upper portion and a lower portion;  
said upper portion having a first diameter and is adapted to support said outer layer, said lower portion having a second and larger diameter and is adapted to engage with said support layer;  
said lower portion providing each said cell with vertical flexibility; whereby,  
said at least one grid is capable of selected vertical movement due to impact, providing said artificial turf system with improved softness and shock absorption.

Claim 2 (original): The artificial turf system of claim 1 wherein said support layer is substantially planar and comprises at least one of compacted sand, dirt, concrete, gravel and asphalt.

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Claim 3 (currently amended): The artificial turf system of claim 1 wherein said support layer comprises an upper layer which includes a stabilizer sheet and a lower layer which includes soil, concrete, gravel and asphalt, said upper layer being positioned over said lower layer.

Claim 4 (original): The artificial turf system of claim 1 wherein each said cell is formed of semi-rigid plastic.

Claim 5 (original): The artificial turf system of claim 1 wherein said grid is shaped to be preferably one of square and rectangular.

Claim 6 (original): The artificial turf system of claim 1 including resilient securing members interconnecting adjacent of said cells of said grid, said securing members allowing relative movement between said cells.

Claim 7 (original): The artificial turf system of claim 6 wherein said securing members are integral with said lower portion of adjacent of said cells.

Claim 8 (original): The artificial turf system of claim 1 wherein said upper portion is of uniform diameter and includes vent holes.

Claim 9 (original): The artificial turf system of claim 1 wherein said lower portion is cone shaped and extends downwardly and outwardly from said upper portion.

Claim 10 (original): The artificial turf system of claim 6 wherein each said securing member is polygonal shaped.

Claim 11 (original): The artificial turf system of claim 6 wherein each said securing member is diamond shaped.

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Claim 12 (original): The artificial turf system of claim 1 wherein said grid is integrally formed.

Claim 13 (original): The artificial turf system of claim 6 wherein said securing members comprise shaped synthetic filaments.

Claim 14 (original): The artificial turf system of claim 1 wherein said base includes a transition layer arranged over said grid.

Claim 15 (original): The artificial turf system of claim 14 wherein said transition layer comprises a grate formed of at least two arrays of substantially diagonally arranged synthetic filaments.

Claim 16 (original): The artificial turf system of claim 15 wherein said filaments are integral.

Claim 17 (original): The artificial turf system of claim 15 wherein said filaments are circular and of different sizes.

Claim 18 (original): The artificial turf system of claim 15 wherein said transition layer includes at least one layer of porous felt secured over at least one surface.

Claim 19 (currently amended): The artificial turf system of ~~claim 15~~ claim 18 wherein said felt is between 4 oz. and 10 oz. per square yard.

Claim 20 (original): The artificial turf system of claim 15 wherein each array of said filaments is disposed along a single plane.

Claim 21 (original): The artificial turf system of claim 15 wherein said filaments forming different of said arrays are of different sizes.

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Claim 22 (original): The artificial turf system of claim 14 wherein said outer layer includes pile tufts secured with a backing fabric, said backing fabric resting on said transition layer.

Claim 23 (original): The artificial turf system of claim 1 wherein said outer layer includes pile tufts secured with a foam backing, said foam backing resting on said cells.

Claim 24 (currently amended): The artificial turf system of claim 1 wherein said ~~upper~~ outer layer comprises a pile fabric with filler surrounding said pile.

Claim 25 (original): The artificial turf system of claim 24 wherein said filler is STF.

Claim 26 (currently amended): A base layer for use with an artificial turf system which further includes a support ~~layer~~, layer and an outer layer, said base layer including:

a flexible mat, said mat comprising a plurality of inter-connected grids, each said grid comprising a plurality of inter-connected vertically disposed multi-diameter cells arranged in a polygonal configuration;

each said cell being formed of a semi-flexible plastic and includes an upper portion with an upper edge for supporting said outer layer and a lower portion with a lower edge for engaging with said support layer, each said cell being constructed to provide relative flexibility between said upper and lower portions; whereby

said base layer provides said turf system with support and vertical resilience against impact.

Claim 27 (original): The base layer of claim 26 wherein each said cell is about 1" in length.

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Claim 28 (original): The base layer of claim 26 wherein said upper portion has a constant diameter of about 2.5" and said lower portion extends downwardly and outwardly from said upper portion to a maximum diameter of about 3.5".

Claim 29 (original): The base layer of claim 28 wherein said lower portion extends from said upper portion at an angle of about 75° of vertical.

Claim 30 (original): The base layer of claim 28 wherein said lower portion includes a plurality of radially extending members.

Claim 31 (original): The base layer of claim 26 wherein said upper portion includes a plurality of vents.

Claim 32 (original): The base layer of claim 26 wherein said upper edge includes a plurality of inwardly directed flexible extensions.

Claim 33 (original): The base layer of claim 26 including resilient securing members engaging outer edges of said cells.

Claim 34 (original): The artificial turf system of claim 33 wherein selected outer ones of said securing members include outwardly directed fingers.

Claim 35 (original): The artificial turf system of claim 34 wherein said outwardly directed fingers are adapted to interconnect with a connector formed on selected outer cells of an adjacent grid, whereby a plurality of said grids may be interconnected forming a mat.

Claim 36 (original): The base layer of claim 33 wherein each of said securing members is capable of elongating, compressing and flexing.

Claim 37 (original): The base layer of claim 33 wherein said securing members comprise shaped synthetic filaments.

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Claim 38 (original): The base layer of claim 33 wherein said securing members are polygonal shaped.

Claim 39 (original): The base layer of claim 26 wherein adjacent vertical axes adjacent of said grid forming cells are spaced by about 4".

Claim 40 (original): The base layer of claim 39 including a semi-flexible transition layer, said transition layer being arranged on upper edges of said grid forming cells.

Claim 41 (currently amended): The base layer of claim 40 wherein said transition layer includes a semi-flexible plastic ~~grate~~ grate.

Claim 42 (original): The base layer of claim 40 wherein said transition layer includes a porous felt layer.

Claim 43 (original): The base layer of claim 42 wherein said felt layer is secured with a semi-flexible plastic grate.

Claim 44 (original): The base layer of claim 43 wherein said felt layer comprises a felt on upper and lower sides of said grate.

Claims 45-53 (cancel)